

PATENT CLAIMS

1. (currently amended) An ~~arrangement~~ apparatus for feeding an anode into a metallurgical smelting reactor (2), ~~such as a flash converter~~, said ~~arrangement~~ apparatus ~~including~~ comprising:

a feeding funnel (7) made of at least one part for feeding at least one anode (4) at a time into the smelting reactor, ~~said arrangement also including~~ ;

a bending element (5) for bending the anode, ~~characterized in that~~ configured such that the essentially completely bent anode (4) ~~is arranged to meet~~ meets the surface of ~~[[the]]~~ a melt (8) contained in the smelting reactor in an essentially horizontal position, ~~the anode having a~~ and the radius of curvature of ~~an anode bent in the bending element (5) is essentially about~~ about 1,000 – 3,000 millimeters.

2. (currently amended) An ~~arrangement~~ apparatus according to claim 1, ~~characterized in that~~ wherein the feeding funnel (7) is arranged in the immediate vicinity of the reaction shaft of the smelting reactor (2).

3. (currently amended) An ~~arrangement~~ apparatus according to claim 1 ~~or 2~~, ~~characterized in that~~ wherein the feeding funnel (7) is made of two parts~~[[,]]~~: a top part (9) and a bottom part (10), so that the angle of inclination of the top part with respect to the horizontal level is larger than that of the bottom part.

4. (currently amended) An ~~arrangement~~ apparatus according to claim 3, ~~characterized in that~~ wherein ~~[[the]]~~ an angle ~~[[A]]~~ between the top part (8) and the bottom part (10) of the feeding funnel (7) is ~~essentially about~~ about 10 – 30 degrees.

5. (currently amended) An ~~arrangement~~ apparatus according to claim 1 ~~or 2~~, ~~characterized in that~~ wherein the feeding funnel (7) is provided with a trajectory-shifting element in order to alter the trajectory of the anode.

6. (currently amended) An arrangement apparatus according to claim 3, ~~4 or 5~~, ~~characterized in that~~ wherein the distance between the bottom part (~~10~~) of the feeding funnel (~~7~~) and the surface of the melt (~~8~~) contained in the reactor is advantageously 0.8 – 1.3 meters.

7. (currently amended) An arrangement apparatus according to claim 1, ~~characterized in that~~ wherein the bending element (~~5~~) for bending the anode consists of four rolling rollers (~~6~~) that are located above the feeding funnel (~~7~~).

8. (currently amended) An arrangement apparatus according to claim 7, ~~characterized in that~~ wherein the diameter of the rolling roller (~~6~~) is 100 — 500 millimeters.

9. (currently amended) An arrangement apparatus according to ~~any of the preceding claims, characterized in that~~ claim 1, wherein the anodes (~~4~~) are arranged to drop into the smelting reactor (~~2~~) one by one.

10. (currently amended) An arrangement apparatus according to claim ~~1, 2, 3, 4, 5, 6, 7, 8 or 9~~, ~~characterized in that~~ claim 1, wherein the anodes (~~4~~) are arranged to drop into the smelting reactor (~~2~~) in batches of several anodes.

11. (currently amended) An arrangement apparatus according to ~~any of the preceding claims, characterized in that~~ claim 1, wherein the anode (~~4~~) is arranged to drop into the smelting reactor (~~2~~) so that the anode grip brackets, i.e. lugs (~~15~~) are pointed upwards.

12. (currently amended) An arrangement apparatus according to ~~any of the preceding claims, characterized in that~~ claim 1, wherein in connection with the feeding funnel (~~7~~), there are provided at least two shutter elements (~~12, 14~~) for preventing the furnace atmosphere from leaking to the surroundings.

13. (currently amended) An arrangement apparatus according to ~~any of the preceding claims, characterized in that~~ claim 1, wherein the feeding funnel (~~7~~) is provided with elements for guiding the sliding direction of the anode (~~4~~).

14. (currently amended) A method for feeding an anode into a metallurgical smelting reactor (2), ~~such as a flash converter, so that~~ comprising:
feeding at least one anode (4) ~~is fed~~ at a time through a feeding funnel (7), the feeding tunnel being made of at least one part; into the smelting reactor, which
bending the anode essentially completely ~~is also bent~~ by means of a bending element (5), ~~characterized in that the anode (4) is bent essentially completely, [[and]] so that~~
[[it]] the anode meets the surface of the melt (8) contained in the smelting reactor at an essentially horizontal position; ~~and in the bending element (5),~~
bending the anode in the bending element ~~is bent~~ so that the obtained radius of curvature for the anode is essentially 1,000-3,000 millimeters.

15. (currently amended) A method according to claim 14 ~~15~~, ~~characterized in that~~
wherein the bending element (5) is made of four rolling rollers (6) with a diameter of 100 – 500 millimeters.

16. (currently amended) A method according to claim 15, ~~16 or 17~~, ~~characterized in that~~
wherein the anodes (4) are dropped into the smelting reactor (2) one by one.

17. (currently amended) A method according to claim 15, ~~16 or 17~~, ~~characterized in that~~
wherein the anodes (4) are dropped into the smelting reactor (2) in batches of several anodes.

18. (currently amended) A method according to claim 15, ~~16, 17, 18 or 19~~,
~~characterized in that~~ wherein the anode (4) drops into the smelting reactor (2) so that the anode grip brackets, ~~i.e. lugs (15)~~ are pointed upwards.